



**World Organisation
for Animal Health**
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REPORT ON

Fortifying Institutional Resilience Against Biological Threats (FIRABioT)

Project Launch Workshop

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Organised by

World Organisation for Animal Health (WOAH)

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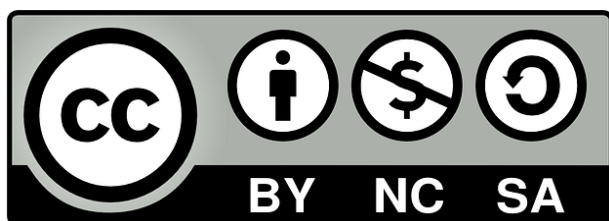
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Acronyms/Abbreviations

Africa CDC	Africa Centre for Disease Control and Prevention
AU-IBAR	African Union Interafrican Bureau for Animal Resources
AU-PANVAC	African Union Pan African Veterinary Vaccines Centre
FAO	Food and Agriculture Organization
FIRABioT	Fortifying Institutional Resilience Against Biological Threats
IFBA	International Federation of Biosecurity Associations
ILRI	International Livestock Research Institute
INTERPOL	The International Criminal Police Organization
MoU	Memorandum of understanding
NICD	National Institute for Communicable Diseases (South Africa)
UN	United Nations
UNICRI	United Nations Interregional Crime and Justice Research Institute
VERTIC	Verification Research, Training and Information Centre
WAHIS	World Animal Health Information System
WHO	World Health Organization
WOAH	World Organisation for Animal Health

Executive Summary

Recognising the risks emanating from the accidental or deliberate release of animal pathogens, the World Organisation for Animal Health (WOAH) developed and adopted its [Biological Threat Reduction Strategy](#) (2015). In recent years, events of international concern, such as the COVID-19 pandemic, and African swine fever outbreaks have recently exposed gaps and vulnerabilities in emergency preparedness and the international community's response to all hazards, including events arising from crime and terrorism.

Through previous work funded by the Weapons Threat Reduction Program of Global Affairs Canada (GAC), WOAH identified gaps in the emergency management capacity of some of its members, particularly in Africa. These include a lack of resources (financial, legal, human, and material) to implement contingency plans, inadequate representation of Veterinary Services in cross-government frameworks, and weaknesses in collaboration with the security sector. Its Members have mandated WOAH to promote the role of Veterinary Services in One Health resilience and to better support them through its scientific networks, coordination mechanisms and readily available tools.

Through the *Fortifying institutional resilience against biological threats* (FIRABioT) Project, funded by the Weapons Threat Reduction Program of Global Affairs Canada, WOAH aims to implement targeted activities to support Members in Africa and support the Signature Initiative to Mitigate Biological threats in Africa (Signature Initiative), which is an international initiative led by the Global Partnership against the Spread of Weapons and Materials of Mass Destruction (GP).

In this regard, WOAH organised an inception workshop of the FIRABioT Project on 14-16 March 2023 in Nairobi, Kenya. The workshop brought together the nine priority countries who responded positively to a call for expression of interest to take part in the project (Algeria, the Republic of Congo, Kenya, Madagascar, Malawi, Morocco, Namibia, Tanzania and Zimbabwe), and speakers from a wide variety of partner organisations and institutions such as Africa CDC, AU-IBAR, AU-PANVAC, INTERPOL, Kenya's Ministry of Agriculture and Livestock Development, and WOAH staff from offices in Africa and Headquarters. The objective of this workshop was to help countries identify their needs in 4 topic areas (pillars): emergency management, veterinary legislation, sustainable laboratories, and disease intelligence. At the end of the workshop through collaborative discussion, they were asked to produce draft workplans with potential activities to be included in the Project.

This report outlines the format of the workshop and presents some key outcomes from the different sessions. The workshop was facilitated in a highly participatory and engaging manner using various tools and techniques. It successfully brought together interested partner organisations and WOAH Members to lay the foundations for effectively implementing the FIRABioT Project.

The presentations given during the workshop can be found [on the WOAH Africa website](#), whilst a series of photographs from the workshop are available on [FLICKR](#).

Introduction

The World Organisation for Animal Health (WOAH) organised a launch workshop for the FIRABioT Project to lay the foundations for improving selected WOAH Member Countries' abilities and capacities to respond to emergencies (including agro-crime and agro-terrorism events). The workshop was organised in Nairobi from 14 to 16 March 2023 with representatives from Algeria, the Republic of Congo, Kenya, Madagascar, Malawi, Morocco, Namibia, Tanzania and Zimbabwe.

Also invited were a wide range of interested partner organisations, both at national, regional and international levels. They included representatives of Africa CDC; Ethiopia Animal and Plant Health Agency (APHA); Biological Defense Laboratory, Portuguese Defense Force; EMC-AH, Food and Agriculture Organization (FAO); Interafrican Bureau for Animal Resources, AU-IBAR; International Federation of Biosecurity Associations (IFBA); International Livestock Research Institute (ILRI); INTERPOL; Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise "G. Caporale" (WOAH Collaborating Centre on Epidemiology, modelling and surveillance); National Institute for Communicable Diseases (NICD - South Africa); Onderstepoort Veterinary Institute, Pretoria, South Africa (WOAH Collaborating Centre on Surveillance and Control of Animal Diseases in Africa); Pan-African veterinary Vaccines Centre, AU-PANVAC; WOAH Collaborating Centre on the quality of veterinary vaccines in Africa; SEGA One Health, Indian Ocean Commission; United Nations Interregional Crime and Justice Research Institute (UNICRI), and Verification Research, Training and Information Centre (VERTIC).

The facilitators adopted a participatory approach in delivering the sessions. For example, in breakout sessions participants were clustered, which led to them sharing their experiences and collectively developing insights that were turned into action points for potential adoption into project workplans.

This report outlines critical outcomes, experts' insights, key resolutions and action points of the thematic pillars of Emergency Management, Disease intelligence, Sustainable Laboratories and Veterinary Legislation.

Participants' Expectations of the Workshop

During the opening session, time was spent exploring participants' workshop expectations. Most of these expectations related to the need for further capacity development, understanding the various threats and getting to know more about the support WOAH could offer during the duration of the project.

Details of participants' expectations can be found [here](#).

Opening Session

Welcoming Remarks

1. WOAHA Sub Regional Representative for Eastern Africa – Nairobi

Dr. Samuel Wakhusama, the Sub Regional Representative for Eastern Africa and representing the Regional Representative for Africa, Dr. Karim Tounkara and the WOAHA Director General, Dr. Monique Eliot, stating that the workshop was another broadening of the scope of the mandate of the World Organisation for Animal Health, first through the adoptions of the WOAHA Biological Threat Reduction Strategy in 2015, to the Global Conference on Biological Threat Reduction in Toronto in 2017, the alignment and integration into various international instruments dealing with the political as well as the technological dimension of threat reduction, to this first targeted "regional" attempt to bring animal health in Africa to the fore of this multi-sectoral endeavour.

Dr. Wakhusama highlighted that his colleagues in Southern, Western, Central and North Africa were excited by the new project's opportunities for Veterinary Services in African countries. These opportunities can be seen in terms of support, not just from WOAHA, but by a wide array of international and regional specialised agencies and institutions, who may not traditionally be interested or at least familiar with the animal health sector, but which were present in the meeting.

Dr. Wakhusama's full speech can be found [here](#).

2. WOAHA Delegate – Kenya

Dr. Obadiah Njagi noted that research has demonstrated that parts of West, Central and East Africa have high risk for spill over of zoonotic disease, driven by factors such as intensification of agriculture, increased human population, urbanisation and industry, climate change, and increased travel. Most of these zoonotic pathogens have biothreat potential, underlining the importance of detection and response capacity in the region. Ongoing political conflict highlights the importance of understanding the risks posed by dual-use research in regions where many of these pathogens exist in nature.

Combating these challenges will require strengthened surveillance systems to quickly detect and respond to outbreaks, development of effective vaccines and therapeutics, and promotion of responsible biosecurity practices. There is also a need to address the underlying drivers of these risks, such as deforestation and unsustainable land use practices.

The risks emanating from the accidental or deliberate release of animal pathogens and zoonosis are significant and require urgent action, noting that will require collaborative effort to build a more resilient and sustainable future where the health and well-being of people, animals, and the planet are protected.

3. Representative of Canada High Commission, Nairobi

Mr. Warren Mucci, the Canadian Deputy Ambassador to Kenya, highlighted that the capacity of many economies remains inadequate to address biological threats; hence, it requires better national, regional and international coordination to fully understand the risk, reduce the consequences and understand the risk of diseases of animal origin. He noted that Canada is proud to be sponsoring the Signature Initiative, that Canada's remains committed to the GP aims and objectives.

4. Global Partnership's Signature Initiative to Mitigate Biological Threats in Africa

Presented by Ms. Idosie Kenfack, Africa CDC, Addis Ababa, Ethiopia Gaps and Goal of Biosafety and Biosecurity Initiative

Ms. Idosie Kenfack, a Technical Biosafety/Biosecurity officer at Africa CDC, shared insights on the Signature Initiative to Mitigate Biological Threats in Africa with a key focus on the gaps and goals of Biosafety and Biosecurity Initiative, regional priorities and partners. She highlighted that the goal of the Africa CDC in addressing biosafety and biosecurity was to strengthen these systems in African Union Member States to comply with international regulations, including the International Health Regulations (IHR 2005), Biological Weapons Convention (BWC), United Nations Security Council Resolution (UNSCR) 1540 and the GHSA action packages (APP3).

Ms. Kenfack's full presentation can be found [here](#)

Introduction of the Fortifying Institutional Resilience Against Biological Threats (FIRABioT) Project

WOAH in the biothreat landscape, the Outcome of the RFI and Project Outline

Presented by Dr. Daniel Donachie and Ms. Madison Wimmers, WOAHP Preparedness and Resilience Department, Paris, France

Key points

- 75% of emerging infectious diseases that affect humans, such as Ebola, HIV, and influenza, have an animal origin, while 80% of agents with potential bioterrorist use are zoonotic pathogens.
- WOAHP's strategy for biological threat reduction addresses five key areas: policies, advocacy, and communication; maintaining expertise and setting standards, guidelines, and recommendations; international cooperation, global diseases intelligence, capacity building, and solidarity.
- WOAHP Standards oblige members to notify the occurrence or reoccurrence of a WOAHP-listed or emerging/re-emerging diseases. An official report is shared with all members through WAHIS to inform early warning. Members are encouraged to report suspicions of a deliberate outbreak to WOAHP, but it is not mandatory.
- WOAHP gathers epidemic intelligence, which involves active search and rumour tracking, including through GLEWS+ with the Food and Agriculture Organization (FAO) (+WHO if zoonotic). Criminal activity may be on the darknet.
- Risk assessments are conducted with FAO (+WHO if zoonotic) but have only been done for natural events.
- Information exchange with INTERPOL is facilitated through the WOAHP-INTERPOL MoU.
- WOAHP takes an all-hazards approach to emergencies, and responds to requests for assistance from Members by mobilising expert groups through a network of Reference Centers. It further responds by coordinating with partners such as FAO, WHO and INTERPOL and other mechanisms such as UNODA, UN Secretary-General Mechanism, BWC ISU Inter-Agency Standing Committee.
- WOAHP has begun work on interventions that build resilience strengthen multi-sectoral capacity to agro-terrorism and agro-crime, through regional and international cooperation, and fostering the engagement of veterinary and law enforcement sectors. Priority regions included North Africa, the Middle East, and Southeast Asia.

The session was concluded by Dr. Donachie urging WOAHA Members to collaborate with other agencies and ministries in emergency management and to base emergency management planning on risk analysis to inform national and regional priorities.

Ms. Wimmers provided an overview of the Fortifying Institutional Resilience Against Biological Threats (FIRABioT) Project, which follows the WOAHA-FAO-INTERPOL Agro-Crime Project, previous GAC-funded biothreat work, the COVID-19 After-Action report, and the Technical Item and Resolution from the 89th General Session 2022.

Key points

- A Request for Interest was shared with 25 countries to assess interest in building emergency management capacity and strengthening biosafety and biosecurity. Ten expressed interest in participating.
- The project's objectives are to build capacity for emergency management and response in WOAHA and Members, and to continue strengthening WOAHA as a security partner (e.g with INTERPOL).
- Dissemination of good practices for emergency management (including deliberate releases) will be a key component and will include a global conference.
- The project will leverage communication, examples of which may include podcasts on emergency and disaster management, references from other projects such as EBO-SURSY, and ensure regular updates in WOAHA News, journal articles, and an online repository.

The presentation and more details can be found [here](#)

Pillar 1: Emergency Management

1. Assessing hazards in emergencies through risk analysis

Presented by Dr. Julio Carvalho, Biological Defense Laboratory, Portuguese Army, Lisbon, Portugal

Dr. Julio Carvalho introduced the topic of the multi-hazard spectrum, highlighting that emergencies and disasters are often complex and involve multiple hazards that can take various shapes and forms. These include biological, geophysical, meteorological, climatological, hydrological, and technological hazards. He further explained that the multi-hazard approach is a broad term encompassing the examination of hazards in a specific geographic area, time, and magnitude, as well as the description of their interaction and interpretation of their compounding outcomes.

Key points

- The veterinary community has an essential role in bolstering preparedness for dealing with animal-related issues in emergency and disaster management and risk reduction plans.
- There is a need for a multi-hazard approach, an animal health and security interface, and risk assessment and analysis to address these complex emergencies and disasters.

The presentation and more details can be found [here](#).

2. Good Emergency Management Practices and Contingency plans

Presented by Dr. Ludovic Plee, EMC-AH, Food and Agriculture Organization (FAO), Rome, Italy

Dr. Ludovic Plee introduced the FAO Emergency Management Centre (EMC) as a service provider in emergency management. The services proposed by the EMC on emergency management are categorised into four pillars: preparedness, response, incident coordination and collaboration, and resource mobilisation.

Participants were introduced to good emergency management practices (GEMP) to address animal disease emergencies. The session emphasised that emergency preparedness is an ongoing process, and GEMP is the cycle of which includes preparedness, prevention, detection, response, and recovery. GEMP workshops provide participants with the preparedness and capacity to manage emergency disease outbreaks, increased confidence in the development of their contingency plans, elaborate exchange of experiences between local, regional, national, and global bodies on managing transboundary animal diseases (TADs) and sharing of expertise between plant and animal health specialists.

Key points

- Effective emergency preparedness requires an Emergency Preparedness Plan, Contingency Plan, Operations manuals, and Recovery Plan.

The presentation and more details can be found [here](#).

3. WOAHA Guidelines on Simulation Exercises

Presented by Dr. Daniel Donachie, Programme Manager, Emergency Management, WOAHA

Dr. Donachie presented the WOAHA Guidelines on Simulation Exercises, explaining that simulation exercises are controlled activities that imitate situations for training or assessing capabilities and plans. According to WOAHA's simulation exercise dataset from 2002 to 2021, 408 simulation exercises were reported to WOAHA, with 75% of these exercises conducted in Europe and America. This represents 45% of WOAHA Members who had completed a simulation exercise.

Dr. Donachie emphasized that they help identify opportunities and resources, assess situations, and improve engagement with multiple stakeholders. He also shared that the WOAHA Guidelines on Simulation Exercises were developed to strengthen the capacity of WOAHA Members for preparedness against all hazards through a set of simulation exercise good practices. He provided practical advice on planning a simulation exercise, including assessing the need for an exercise, obtaining approvals, methodologies for delivering an exercise and learning from the exercise.

Key Points

- The WOAHA guidelines on simulation exercises were developed to strengthen the capacity of WOAHA members for preparedness against all hazards.
- Simulation exercises are beneficial for identifying opportunities and resources, assessing situations, and improving engagement with multiple stakeholders.
- WOAHA's simulation exercise dataset shows that only 45% of members have reported conducting simulation exercises.

The presentation and more details can be found [here](#)

4. Interface of Security and Animal Health

Presented by Dr. Fanny Ewann INTERPOL, Lyon, France

Dr. Fanny Ewann's presentation highlighted the interface between animal health and security. She explained that issues such as scams, cyberattacks, misinformation/disinformation, and further disruption of societies, exploit health crises. Main contributors to these situations include disease

importation/exportation, falsified/false pharmaceuticals, and disease-spread threats/attempts. She further highlighted that public safety is at the core of law enforcement's mandate, focusing on crisis management, risk & threat assessment, criminal investigation, public order, and critical infrastructure protection.

She clarified the definitions of agro-crime, which is any offence impacting animals and crops, the inputs used to raise them or their products, that is classified as a crime per a country's civil and penal codes, and agro-terrorism which is the intentional release of biological agents or toxins to harm or kill animals or plants to intimidate or coerce a government or civilian population to further political or social objectives.

Key Points

- INTERPOL supports information sharing, documents criminal trends and threats, and shares good practices.
- INTERPOL has a Bio tracker criminal analysis file that supports tracking biothreats.

The presentation and more details can be found [here](#)

5. Emergency Response Systems

Presented by Dr. Julio Carvalho, Biological Defense Laboratory, Portuguese Army, Lisbon, Portugal

Dr. Carvalho began by emphasising the importance of preparedness as a critical component of emergency management. He explained that in order to effectively manage emergencies, it is necessary to focus on prevention, detection, and response.

He went on to discuss the three pillars of addressing animal health:

- Pillar 1: Finding it fast through surveillance
- Pillar 2: Eliminating it quickly through culling and disposal, cleansing and disinfection
- Pillar 3: Stopping the spread through biosecurity, movement restrictions, and public awareness

He stressed that incidents could be natural, accidental, or deliberate, underscoring the importance of having a contingency plan in place. A contingency plan should consider factors such as legislation, finance, command and control, nature of the disease, size, structure, and movement and trading patterns of the relevant livestock.

The presentation and more details can be found [here](#)

6. Learning from Emergencies

Presented by Dr. Ludovic Plee, EMC-AH, Food and Agriculture Organization (FAO), Rome, Italy

Dr. Ludovic Plee introduced the concept of after-action reviews (AARs) as a tool for continuous improvement in emergency management. He emphasised that AARs should be used by Veterinary Services to reflect on their performance during animal health emergencies and identify areas for improvement. AARs provide a platform for stakeholders to give feedback on the response to an emergency, consolidate information, and explore issues that arose during the response. They are not intended to blame individuals or groups, but to investigate general issues in the response.

He also discussed the role of Veterinary Services in recovery, including verification of freedom, stopping vaccination, declaration of official recognition of animal disease status, rehabilitation of affected communities, restocking, technical and financial support, psychological support, and staying disease-free.

Key points

- AARs are a tool for continuous improvement in emergency management.
- AARs provide a platform for stakeholders to give feedback, consolidate information, and explore issues that arose during the response.
- Veterinary services play an essential role in recovery.

The presentation and more details can be found [here](#)

PILLAR 1 - Emergency Management Breakout Session

The participants were divided into four groups for discussion with guiding questions. A summary of their responses is below.

GROUP 1: “PREPARE AND PREVENT”

<i>What emergency management arrangements or plans do you have in your country?</i>	<i>Do you conduct simulation exercises? If so, what of what kind? Describe one of your experiences.</i>
<ul style="list-style-type: none"> • Contingency plans for some priority diseases were common (e.g for FMD, HPAI). Priorities were country dependent. Often there are plans for some specific zoonotic diseases. • Training on the contingency plans is typically not on a regular basis, if at all. Simulation exercises are less common due to their generally complicated nature, and lack of training on how to run them (e.g. should wildlife be considered? What actors to involved in the surveillance/detection chain?). • Overall lack of resources is a barrier 	<ul style="list-style-type: none"> • Wide difference between countries: some have undertaken only tabletop exercises; others have done functional exercises. Depends on the resources available. • Rinderpest simulation exercises have been undertaken in at least half of the countries since the disease is a high priority. • Other simulation exercises conducted included HPAI and Ebola

GROUP 2: “EMERGENCY RESPONSE”

<i>Describe capabilities and capacities to implement emergency response.</i>	<i>How do you coordinate with other sectors?.</i>
<ul style="list-style-type: none"> • Only some specific diseases are a priority for resource engagement. Need to improve awareness. • Lack of cooperation between labs. Need to improve provincial labs to build better preparedness. • Need to collaborate and to educate farmers and civil society, since they are the first line of detection of a disease. Farmers are often reluctant to notify if some of their animals are sick. • One Health approach could be better used, with better coordination and cooperation between animal health and public health, especially during a disease outbreak. • Could be good to improve economic capacities as well in case of an epidemic. 	<ul style="list-style-type: none"> • Awareness of the importance of biosecurity improved after the COVID-19 pandemic. • One Health Committees work well for zoonotic diseases, though the capacities may vary greatly between countries. There is generally a lack of effort or resources for non-zoonotic diseases. • Weapons of mass destruction are not always tackled, because of resource insufficiencies. Agro-terrorism is typically not seen as a major threat and not often discussed. • Need to gather all stakeholders together to discuss, cooperate and work together (Veterinary services, public health, law enforcement, border control, etc.). Most of them are not used to working one together.

GROUP 3: “RECOVERY AND LEARNING”

<i>Describe an after-action review experience and the continuous improvement in emergency management?</i>	<i>What have been the key lessons identified from previous emergencies your country faced?</i>
<ul style="list-style-type: none"> • Typically, a lack of awareness and understanding from stakeholders about the importance of preparedness activities, due to time and expense involved. Some countries have done some reviews of their contingency plans after disease outbreaks. • Lack of coordination and communication between ministries complicates the after-action review. 	<ul style="list-style-type: none"> • Compensation for farmers is important since they are likely to hide sick animals because of economic issues. • One country noted that there is a multidisciplinary commission to evaluate required indemnities and draw a compensatory budget within 2 weeks. Example could be replicated in other areas.

GROUP 4: “AGRO-CRIME AND AGRO-TERRORISM”

<i>What kinds of agro-crime are of most concern in your country?</i>	<i>Describe the challenges and opportunities of cooperation between Law enforcement and Veterinary Services</i>
<ul style="list-style-type: none"> • Falsified products. • Lack of border control regarding animal products; porous borders. • Illegal trade, poaching, bushmeat: no sanitary compliance, and high risk of disease spread. • Agro-chemical terrorism: deliberate use of poison in pastures to kill animals. • Animal abuse and mistreatment. • Organised crime networks (e.g. illegal trade, animal fights). • Animal poisoning (wildlife, pets, livestock) by people, to avoid any disturbance in their everyday lives. • Exotic pets 	<ul style="list-style-type: none"> • (Challenge) Law enforcement do not always follow the laws (e.g due to corruption) and often don't wait for Veterinary Services to act. Overall lack of coordination and communication. • (Challenge) Veterinary services need to communicate more concretely on actions, and not only information. Sometimes, recalls to binding laws regarding that potential concrete role of VS. • (Opportunities) Training between Law enforcement and Veterinary Services to know capacities, mindset, and capabilities of one another. • (Opportunities) Laws need to directly link Veterinary Services and Law enforcement (e.g. for stock theft)

Pillar 2: Veterinary Legislation

1. International Legal Frameworks for Bio-threat Reduction

Presented by Mr. Harro Wittermans, United Nations Interregional Crime and Justice Research Institute (UNICRI), Nairobi

Mr. Harro Wittermans defined biothreats of a deliberate nature as involving the intentional misuse of biological agents to harm humans, animals, or plants. Biowarfare is the use of a biological agent (biological weapon) during warfare. Bioterrorism is the deliberate release of a biological agent by a non-state actor to cause illness or death in people or to disrupt agriculture and/or the food supply (agro-terrorism), typically inspired by ideological, religious or political beliefs. Bio-crime is the deliberate release of a biological agent by a non-state actor to kill or make a single individual or small group of individuals typically motivated by revenge or the desire for monetary gain by extortion.

Key points

- UNSCR 1540 (CBRN terrorism) obliges all states to adopt legislation to prevent non-state actors from developing, acquiring, manufacturing, possessing, transporting, transferring or using CBRN weapons, related materials and their means of delivery.
- The IHR provides an overarching legal framework that defines countries' rights and obligations in handling public health events and emergencies that have the potential to cross borders.
- Biological Weapons Convention is the first multilateral disarmament treaty banning an entire category of weapons, covering biological agents, toxins, their means of delivery, and all future scientific and technological developments relevant to the Convention.

The presentation and more details can be found [here](#)

2. Support to Veterinary Legislation reviews in AU Member States

Presented by Prof. James Wabacha, AU Inter-African Bureau for Animal Resources (IBAR), Nairobi

AU-IBAR and WOAAH have a cooperation agreement whose areas of partnership are knowledge, data and information management and dissemination; legislation, standard setting, standard implementation, and trade; Veterinary profession and veterinary education; strengthening of Veterinary Services; animal production and farming practices/animal welfare and advocacy and policy guidance. AU-IBAR supports AU Member States to update and review their veterinary legislation based on findings of the WOAAH veterinary legislation identification missions.

This is anchored on the overall objective to ensure that as many African Countries as possible have updated veterinary legislation, which not only meets WOAAH Standards but also enhances the capacity of African countries to effectively delivery Veterinary Services.

Key points

- Thirteen (13) countries were supported during an online training in October 2020. The Participants included National Task Force members comprising of two (2) veterinary technical Experts and one (1) legal expert from each of the following countries: Botswana, Cape Verde, Djibouti, Eswatini, Libya, Guinea Bissau, Madagascar, Mauritius, Togo, Somalia, Sudan, Tanzania, and Tunisia.
- Bills and Acts (e.g. Breeder Farms, Hatcheries and Feed Establishments (infectious diseases prevention) Regulations, Animal Welfare and Protection Bill, Veterinary Council Act) have been proposed to Parliament of several countries (e.g. Nigeria, Sierra Leone, Cote D'Ivoire, Gambia, Kenya) for adoption.

The presentation and more details can be found [here](#)

3. Case studies in applying the VLSP to biothreat legislation in Central America

Presented by Dr Sonia Drobysz, Co-Programme Director for National Implementation, VERTIC and Dr David Sherman, Programme Coordinator, Capacity Building Department, WOAAH

VERTIC's National Implementation Measures (NIM) Programme works on the national legislative implementation of CBRN instruments. VERTIC's experts also participate on WOAAH VLSP missions.

Dr Sherman presented an overview of VLSP biothreat missions, including the objectives, methodology, outcomes, and findings of such missions.

Key points

- Three pilot missions were conducted in 2016, 2017 and 2018 at the request of 3 Member countries in Central America following a WOAAH-sponsored workshop on legislation and biological threats.
- There was some awareness among participants on biothreats with a focus on natural and accidental threats and risks of food contamination but not deliberate threats such as bioterrorism, and limited awareness of veterinary /agricultural health services of biothreats-related issues.
- Varying levels of coordination and collaboration was observed between Veterinary Services and other entities involved in biothreat reduction, detection, and response (e.g., health authorities, law enforcement, foreign affairs, defence, trade).
- Animal health legislation could include biothreat specific provisions to establish a comprehensive system to control activities with animal pathogens and toxins.

The presentation and more details can be found [here](#).

4. Legal considerations in managing biological threats: Introduction to a biothreat simulation exercise

Presented by Dr. David M Sherman – Programme Coordinator Capacity Building Department WOAAH, Paris, France

Dr. Sherman noted that legislation is the essential function of modern government since it is the way to direct and manage the complex social, economic and technological systems that constitute modern society. The quality of the legislation we enact determines whether we, as a society, will prosper or decline and possibly whether we will survive or perish.

The presentation and more details can be found [here](#).

He introduced to participants the background of the simulation exercise intended to test the capacity and resilience of their country's existing national legal frameworks to prevent, detect and respond to a disease event involving the intentional introduction, of a zoonotic disease agent by non-state actors, i.e. agro terrorism.

The scenario evolves over eight days and includes several key developments: An outbreak of vesicular disease of cattle occurs on a commercial cattle farm in a zone of the country officially free of FMD. Farm workers in contact with affected cattle become ill. Diagnostic tests suggest the involvement of a virus that is FMD-like but not identifiable as a known variant of FMD. The occurrence of the disease in different parts of the country and the unusual nature of the organism suggest the possibility of bioterrorism, and a criminal investigation is launched, and public alarm ensues.

PILLAR 2 - Veterinary Legislation Breakout Session

The participants were divided into groups, each at a different stage of the simulation exercise scenario. They were asked to consider how legislation would be important at each of these stages and discuss any gaps they observed in their own country in this regard. A summary of the discussions is below:

<p>PART 1: MANAGING A VESICULAR DISEASE OUTBREAK</p> <ul style="list-style-type: none"> • Conduct analysis of legislation gaps dealing with biothreats (e.g., assessment, regulation, lab activity, criminal investigations), and adopt a strong legal framework for preparedness • Engage WOAHP standards as a global legal framework. • Strengthen multi-lateral, multi-scale and multi-sectoral cooperations between Veterinary Services and Law Enforcement, and other ministries (e.g. Foreign Affairs, Economics). • Develop a communication plan about information sharing between sectors and countries. • Develop a contingency plan with precise nomenclature, guidance, and surveillance all along the detection process. • Elaborate plan by countries detailed on data sharing and protection between Veterinary Services and Law Enforcement and what to address public/media. 	<p>PART 2: DISEASE OUTBREAK (ZONOTIC PHASE)</p> <ul style="list-style-type: none"> • Broaden the use of communication plans such as One Health strategy and Zoonotic committee. • Strict restriction of animal movements and ensuring restrictions on human movement in infected areas as well.
<p>PART 3: NOVEL ORGANISM DETECTED AS CAUSE OF OUTBREAKS IN CATTLE AND HUMANS</p> <ul style="list-style-type: none"> • Develop control measures for labs, including biothreat safety measures, accreditation, and auditing procedures. • Establish strong requirements for transportation, storage, preservation, material transfer and destruction of materials and waste (including verification). 	<p>PART 4: CRIMINAL INVESTIGATION PHASE</p> <ul style="list-style-type: none"> • Training of veterinarians on how to give evidence at courts. • Harmonizing key terminology between Law Enforcement and Veterinary Services, (e.g., ongoing work between WOAHP and INTERPOL). • Strengthen magistrate office about biothreats and their prosecution.

Pillar 3: Sustainable Laboratories

1. WOAHA's Laboratory Twinning Programme

Presented by Dr. Keith Hamilton, WOAHA Preparedness and Resilience Department, Paris, France

The Twinning programme is a networking and capacity-building program that has been running for nearly 20 years. Launched in 2006, its objective was to improve the geographical distribution, especially in underrepresented regions, of WOAHA Reference Laboratories, which tend to be concentrated in Europe and North America. Each project partners a WOAHA Reference Laboratory and a candidate institute.

The idea is to create a link between the candidate and the Reference Laboratory through the exchange of knowledge and biological materials, which is beneficial to both. The candidate gains from experience at the Reference Laboratory, whilst the Reference Laboratory gains experience in the local epidemiology dynamic and expertise of the local laboratory. The primary goal of the twinning project is for the candidate to become a WOAHA Reference Laboratory. The twinning programme is part of WOAHA's activities in improving Veterinary Services.

Key points

- A country can express interest in the twinning programme depending on the availability of funds. WOAHA guides the applicant in the process and supports the identified applicants in implementing the twinning programme.
- Since 2006, 114 twinning projects have been initiated with many candidate laboratory centres being in Africa.
- The programme has an evaluation framework for, which aims to create a system to monitor the implementation of the project and evaluate the impact and changes as well as the sustainability of its outcomes.

The presentation and more details can be found [here](#)

2. Biosafety and Biosecurity Initiative 2021 – 2025 Strategic Plan

Presented by Mr. Jaures Arnaud Kenfack, Africa CDC, Addis Ababa

Mr. Jaures Arnaud presented and highlighted the aim of the strategic plan, which is to strengthen the biosafety and biosecurity systems of African Union Member States to comply with international regulations, including the International Health Regulations (IHR 2005), Biological Weapons Convention (BWC), and United Nations Security Council Resolution (UNSCR) 1540 and the GHSA action packages (APP3). There have been many developments and activities within this plan including but not limited to:

- The development of a Biosafety and Biosecurity Legal Framework for the Africa Region is ongoing at the approval stages by various stakeholders.
- Implementation of a Regional Certification Program for Biosafety and Biosecurity Professionals
- The opening of Africa's first regional diagnostic demonstration centre in Johannesburg Gauteng
- Adoption of a Regulatory and Certification framework for institutions handling high-consequence agents and toxins.
- Conducting Training of Trainers for several countries on prevention, detection and response to events of public health concerns and threats of high-risk pathogens.
- Enhance strategic partnership with the Global Partnership Signature Initiative as Co-chair 2 working groups, and working with United Nations Office for Disarmament Affairs (UNODA) in implementing the Biological Weapons Convention.

- Publication of guidelines for: regional biosafety and biosecurity legal frameworks, development of a national biosafety and biosecurity strategy-guidance and regulatory and certification framework for institutions handling high-risk pathogens.

The presentation and more details can be found [here](#)

3. Establishment of a new Undergraduate Degree Program on Biosafety and Biosecurity

Presented by Mr. Fidelis Mambo, HoD, Medical Laboratory Sciences-MMUST, Kakamega City. IFBA Certified Professional in Biorisk Management and Biological Risk Assessment

Biosafety and biosecurity remain one of the "*weakest core capacities*" of WHO Member States identified by IHR monitoring and evaluation activities, with Africa having limited expertise in biosafety and biosecurity, a key gap requiring urgent attention. This has been a priority for Kenya, stressing the need for universities and government to work together focusing on extracting lessons from the pandemic.

Mr Mambo shared the difference between training and education, highlighting that training builds selected technical competencies amongst professionals that are already working in the field, applying what they learn to their regular work. Education builds a technical foundation of knowledge and understanding for students before they enter the workforce. This is often referred to as building 'pre-service' technical competency.

Key points

- Biosafety professionals tend to learn on the job or through training workshops, not through formal education in higher learning institutions.
- No clear road map for a young person wishing to enter the field of biosafety & biosecurity, highlighting a need to "formalise" the biosafety profession as a career path, with a focus on post-secondary education.
- IFBA is collaborating with Masinde Muliro University of Science & Technology in Kakamega, Kenya to develop and pilot a new undergraduate degree program specifically in biosafety & biosecurity with funding provided by Global Affairs Canada.
- Development of an undergraduate program in biosafety and biosecurity is an important step forward to solving the overall shortage of these professionals.

The presentation and more details can be found [here](#).

4. Overview of the Regional Training and Certification Program for Biosafety and Biosecurity Professionals

Presented by Mr. Zibusiso M. Masuku Biosafety Technical Manager Chairperson: Institutional Biosafety and Biosecurity Committee (IBBC) Regional Centre of Excellence for Biosafety and Biosecurity – Southern Africa, Africa Region Subject Matter Expert (Af-RSME) – Biorisk Management

Mr. Masuku shared that under the Africa CDC Biosafety and Biosecurity Initiative, there are three (3) working groups facilitated by international and regional subject matter experts based on common gaps that include: Lack of or inadequate or fragmented legislation, regulations, and guidelines relevant to biosecurity and biosafety; Lack of or limited training programs; Low level or awareness among researchers/scientists and; Lack of or limited capacity to adhere to international biosecurity and biosafety best practices, due to infrastructure, resources and human capacity.

Key pointers

- The Regional Training and Certification program for Biosafety and Biosecurity professionals aims at training biosafety and biosecurity professionals on the African continent with knowledge, skills and demonstrable competencies to build a foundational workforce.
- The development of the Biological Safety Cabinet Certification Program Curriculum, which is in line with international standards for both theoretical and practical forms of competency assessment, addresses the lack of trained and qualified technicians through the provision of a regionally sustainable and accessible certification program.
- Proposed Establishment of Regional Centres of Excellence for Biosafety and Biosecurity (RCoEBB) with key performance areas of the RCoEs. The next steps of the this program are to develop and implement training and certification for laboratory equipment maintenance, conduct training and competency assessments of technicians.

The presentation and more details can be found [here](#).

PILLAR 3 - Sustainable Laboratories Breakout Session

The participants were divided into three groups and given questions to guide the discussions. A summary of these discussions is below:

<p>WHAT ARE SOME CHALLENGES AND OPPORTUNITIES TO LABORATORY SUSTAINABILITY?</p> <ul style="list-style-type: none"> • Public-sector laboratories often lack funding and adequate staff and limited accreditation, but they handle bio threats not handled by the private sector. • Most countries have vague legal frameworks with no specifics on law enforcement hence the challenge in collaboration on collaboration during agro-crime and agro-terrorism incidents. • Challenges to coordinate forensic veterinary labs, especially when the evidence is required in court. • In some countries, veterinary laboratories only collaborate with public health on specific cases (e.g. rabies, other zoonotics). • Donor funding may not be sustainable, especially for equipment maintenance or reagent purchasing. • Human resource limitations. • Establishment of examination and certification committee by Africa CDC (with demonstrable field experience) • Enhance G7 Global partnership signature initiative to mitigate biothreats in Africa. • Training for the prevention, detection, and response to events of public health concern and the threats of high-risk pathogens. • Collaborative multi-sectoral approach to create resilience on biothreat among as many sectors as possible. • Training and awareness-raising campaign among politicians on Veterinary Services. • Support accreditation for BSL-3. Full implementation of biosafety initiative (2021-2025). • Funding of laboratory reagents and material for testing of zoonotic and trans-boundary animal diseases for the purpose of disease surveillance • Need to train veterinarians in collecting sampling that can be used in court. • Involve labs in simulation exercises. 	
<p>HOW INTEGRATED ARE VETERINARY LABORATORIES IN YOUR COUNTRY'S EMERGENCY MANAGEMENT SYSTEM?</p> <ul style="list-style-type: none"> • Need a revitalization of regional laboratories. • Knowledge generated through special analysis and tools such as risk maps adopted in designing risk-based surveillance and control. 	<p>DOES YOUR COUNTRY HAVE A VETERINARY LABORATORY INCIDENT NOTIFICATION SYSTEM?</p> <ul style="list-style-type: none"> • Most countries don't have strict legal framework in that sense, and when they do the level of detail is variable between countries. • Improvements needed on passive and active surveillance, such as integrated data surveillance and knowledge systems. • Need to strengthen labs capacities on risk identification and counter-measure development. • Improve multi-sectoral approach (One Health).

Pillar 4: Disease intelligence (Early warning)

1. WAHIS: First impressions - the new WAHIS early warning module Presented by Dr. Gladson Kamwendo, WOAHA WAHIS Focal Point, Malawi

Dr. Kamwendo shared about the WAHIS training in 2020, when the system went live in 2022 and the refresher training in 2022. He highlighted the changes to come and discussed how the new platform would contain more features than before. He indicated that there is easy user interactivity with the platform.

The presentation and more details can be found [here](#).

2. WOAHA Active Search Activity and EIOS: Presented by Ms. Madison Wimmers, WOAHA Preparedness and Resilience Department, Paris, France

Ms. Wimmers shared with the participants the WOAHA disease notification and active search activity process. The notification is divided into two levels: the early warning system informs the international community of relevant epidemiological events occurring in WOAHA members, and the Monitoring system enables monitoring of WOAHA-listed diseases (Presence or Absence) over time.

Ms. Wimmers also shared an overview of EIOS – Epidemic Intelligence from Open Sources highlighting the cycle of organised and systematic collection, analysis and interpretation of information from all sources to detect, verify and investigate potential health risks. This access to a vast range of publicly available information helps to facilitate timely detection, identification and verification of events that may pose a threat to public health, complement contextual analysis and assessment, as well as to facilitate communication across the global network of experts.

Key points

- Interested authorities or organisation can connect with a WHO office to inquire about access to EIOS, at which point every request is assessed individually.
- EIOS is built on three pillars: a growing global community of practice, a range of multidisciplinary collaborators and an evolving fit-for-purpose system.

The presentation and more details can be found [here](#).

3. Epidemiology, Modelling and surveillance in Africa Presented by Dr. Misheck Mulumba Onderstepoort Veterinary Research (OVR) institute, Pretoria, South Africa

Dr. Mulumba shared that veterinary epidemiology focuses specifically on disease surveillance, response, and prevention. It involves data collection and analysis to develop and test hypotheses related to disease patterns. Modelling is the use of applied epidemiological models to predict future trends of diseases, to understand disease and health dynamics, and to improve the measurement of health indicators. Epidemiological modelling is simplified representations of real-world processes expressed in mathematical language.

Key points

- Mapping the research outputs of epidemiological modelling studies concerned with transmission dynamics of infectious diseases and interventions in Africa is important to identify the areas with

substantial levels of research activities, areas with gaps and research output trends across the continent.

- Trends show that most of the research in this field is not evenly distributed across the continent but is dominated by researchers from South Africa and Kenya.
- Laboratory and field research constitutes a major part of the modelling effort.
- Without the data and information supplied by the ARC-OVR diagnostic laboratories, animal disease detection, control and prevention would be significantly weakened.

The presentation and more details can be found [here](#)

4. Defining Ecoregions and Prototyping an EO-based Vector-borne Disease Surveillance System for North Africa (PROVNA)

Presented by Dr. Alessandro Ripani Istituto Zooprofilattico Sperimentale dell'Abruzzo del Molise, Teramo, Italy

Dr. Alessandro Ripani shared on ecoregionalisation, which is the process through which a territory is classified into similar areas ("ecoregions") according to specific environmental and climatic factors (e.g., elevation, vegetation, rainfall, temperature). The ever-increasing abundance of remote sensing (RS) and Earth Observation (EO) data, with a variety of spatial and temporal resolutions and biophysical products (land surface temperature, normalised difference vegetation index, soil moisture, etc.) offers enormous opportunities for investigations.

Dr. Ripani introduced the PROVNA project, highlighting that this project – funded by WOA and implemented with the University of Tennessee, USA – was built within the framework of the Mediterranean Animal Health Network (REMESA). REMESA recognised Vector-borne diseases as a priority topic for the Mediterranean region. The general objective was to support the competent local authorities in North Africa (Mauritania, Morocco, Algeria, Tunisia, Libya and Egypt) in the identification of specific areas (ecoregions) to carry out entomological/serological surveillance for vector-borne diseases. The disease selected for the first application is Rift Valley Fever.

Key Points

- PROVNA will support Risk-based surveillance, Early warning systems and Assessment of risks of VBD introduction and persistence.
- The PROVNA has five phases, with phase one being a definition of the requirements, Phase 2: being EO data preparation, Phase 3: Statistical model/analyses, Phase 4: Ecoregion map evaluation/validation/application and prototype development and Phase 5: Communication and dissemination.
- The tool developed by the project will support Veterinary Services in developing a customised predictive and innovative model to improve the risk-based targeted surveillance of vector-borne diseases.

The presentation and more details can be found [here](#)

5. Surveillance of diseases and biological threats through a One Health approach, in the Indian Ocean: The SEGA-One Health Network

Presented by Dr. Harena Rasamoelina, Coordinator of the Health Monitoring Unit-COI / SEGA-OH network

Following a chikungunya outbreak in 2005-2006 in the Indian Ocean region which had health and economic impacts, an Epidemiological Surveillance and Alert Management network or SEGA network was established in 2009. This was to address the lack of collaboration and health information sharing between countries during the outbreak.

Dr. Harena the context of the network which include relations of English-speaking vs French-speaking countries, different levels of development, different health systems, different health issues and vulnerabilities to climate change and infectious diseases. The SEGA health network has led to multidisciplinary thematic hubs, comprising more than 300 health professionals from ministerial departments, and operational partners (CIRAD, IPM, training institutions, etc.), and collaboration with WHO, WOA, as well as OIM, and FAO.

Key points

- There is a need for the Assessment of country laboratory systems and networking of laboratories, including all sectors (at the national and regional levels)
- The need to strengthen Cross-sector training: IATA, biosafety and biosecurity, laboratory systems management, bacteriology/antibiotic sensitivity, and to support regional external quality control of arboviruses, bacteriology which (under construction)
- Establishment/strengthening of entomological surveillance in all countries, particularly at points of entry, targeting invasive vectors (*An stephensi*, *Rhipicephalus* sp...)
- Integrated surveillance of climate-sensitive syndromes and diseases: monitoring indicators at the regional level.
- Explore mechanisms to ensure the sustainability of SEGA-OH funds, hosting of projects, and framework through a regional health policy.

The presentation and more details can be found [here](#).

6. Spatial distribution of RVF, Brucella spp and Coxiella burnetii in Kenya

Presented by Dr. Bernard Bett International Livestock Research Institute, Kabete

Dr. Bernard Bett shared that the distribution of most infectious diseases is influenced by climate, geologic topography and a wide range of biotic factors. Dr. Bett highlighted that many of the diseases cluster in common ecologies because they share a common reservoir host and respond to similar drivers and risk factors. This knowledge can be used to develop risk maps that can guide the deployment of risk-based surveillance and control measures and to conduct impact assessment.

Through the support of a DTRA-funded project, the team conducted an investigation on the ecological factors that influence the distribution of Rift Valley fever, *Brucella* spp. and *Coxiella burnetii* in humans and animals in Kenya. The main objective of the investigation was to develop risk maps for Rift Valley fever virus, *Brucella* spp and *Coxiella burnetii* and their co-infections in Kenya to build capacity on biosafety and biosecurity practices among human and animal health workers for better management and control of EDPs and related pathogens

Key points

- Spatial analysis generates knowledge and tools, such as risk maps, that can help in designing risk-based surveillance and control.
- Bundling of services allows for improved efficiency and effectiveness.
- Skills generated can be applied in other settings.

The presentation and more details can be found [here](#)

7. Diagnostics and reagents, proficiency testing, supporting surveillance **Presented by Dr. Charles Bodjo, AU Pan-African Veterinary Vaccines Centre (PANVAC), Debre-Zeit**

This session focused on the importance of animal vaccines, AU-PANVAC concerns on biosecurity/biosafety, quality control of veterinary vaccines in Africa, diagnostics production initiatives in Africa and inter-laboratory comparison activities.

Dr. Bodjo noted that Pan African Veterinary Vaccine Centre (PANVAC) merged with the AU Technical Centre in 2004 to become AU-PANVAC. The mission is to promote the use of good-quality vaccines and diagnostic reagents for the control and eradication of animal diseases in Africa.

AU-PANVAC activities around biosafety and biosecurity include: accidental loss or spread of valuable biological material that may be responsible for infectious and/or contagious diseases; the use of biological materials for malicious purposes; protection of laboratory staff and the environment from exposure or spread of pathogens; handling selected agents such as rinderpest virus.

The presentation and more details can be found [here](#)

8. Evolution of surveillance approaches of PPR in view of eradication (endemic countries and threats to disease free countries)

Presented by Dr. Simon Kihu WOAHA-FAO PPR Secretariat, Nairobi

Peste de Petits Ruminants (PPR) is a small ruminant disease with the highest socio-economic impact in developing countries, thus could be a possible candidate for bioterrorism. In 2017, WOAHA launched a PPR Global Control and Eradication Strategy (GCES) and Global Eradication Program (GEP), whose objective is to eradicate PPR by 2030, reinforce Veterinary Services and reduce the impact of other high impact infectious diseases of small ruminants.

The GEP is three phases: Phase I (2017 – 2021) where the prevalence is reduced and Phase II & III (2022 – 2030) which envisage eradicating the disease. The PPR GEP is developed and implemented as a multi-country, multi-stage process to increase the prevention and control of PPR. It involves multiple stakeholders and leverages their respective roles.

Key points

- The main purpose of PPR surveillance is early detection
- The PPR surveillance plan is developed in the context of the PPR epidemiological situation in each country and is part of the PPR National Strategic Plan (NSP).
- The use of community-based animal health systems and tools, i.e., CAHWs and Participatory Disease Search (PDS), will be useful in getting surveillance data in difficult areas.
- Analysis of the genetic sequence (molecular epidemiology) of PPR virus lineage sub-types detected in an epizootic is an important epidemiological tool to help precisely characterise the ecosystem and understand viral movement and new virus intrusion.

The presentation and more details can be found [here](#)

PILLAR 4 - Disease intelligence (Early warning) Breakout Session

The participants were divided into four groups and given topics to guide their discussions. A summary is presented below:

<p>ONE HEALTH SURVEILLANCE</p> <ul style="list-style-type: none"> • Farmers and different stakeholders training on zoonotic disease that can have critical economic outcomes. • Funding of farmers incentives (anti parasitic, vaccines, remedies) to encourage and engage them. • Workshops dedicated to the monitoring of animal diseases constituting biothreats, take advantage to improve regional and international ladders. • Implementation of a One Health laboratory platform. • Involvement of laboratories • One Health approach to be reinforced (in infrastructures, in staff), and relevant connection with animal health services, and with other relevant sectors (public health, law enforcement). COVID-19 highlighted gaps • One Health frameworks often seem like a daunting task. • Coordination within countries, but also regional cooperation to be reinforced to detect and prevent potential risks. • The legal frameworks to be strengthened and should be sustainable. Often dependent on political will. 	<p>LISTED DISEASES</p> <ul style="list-style-type: none"> • Create an inventory of dangerous agents, including novel pathogens
<p>EVENT-BASED SURVEILLANCE</p> <ul style="list-style-type: none"> • Different levels of surveillance systems (local/national) + more unofficial media such as rumor-based surveillance. However, the information/surveillance chain is not always the smoothest. • Mostly passive surveillance on targeted and identified diseases. • Overall lack of resources, especially in rural areas (reveals the lack of awareness as well among stakeholders). 	<p>SYNDROMIC SURVEILLANCE</p> <ul style="list-style-type: none"> • Staff training on surveillance data and the remote sensing of it.

Country Work plans and Country Proposed Activities

Country work plans and activities were an expected outcome of the workshop. The participants were asked to discuss their needs following what they had heard in all the presentations of the four pillars.

This took place in groups of their respective regions, which were **Southern Africa** - Namibia, Zimbabwe, Madagascar, and Malawi; **West and Central Africa**, Republic of Congo (as Cote d'Ivoire did not send a representative); **Maghreb** - Algeria and Morocco; and **Eastern Africa** - Kenya and Tanzania. They then developed on **country work plans** considering the regional discussion and needs and bringing in the areas of twinning, collaboration, and partnerships. For these plans, they were asked to suggest activities, how the security sector would be involved, which pillar it related to, a proposed timeline for implementation, resources required, and partners to involve.

Workshop Reflections

Throughout the workshop, there were some primary reflections made by participants. They include those listed below.

ONE HEALTH

- The importance for African countries to prioritise surveillance using a One Health approach.

MULTI-SECTORAL COLLABORATION

- Strengthen coordinated multi-agency efforts at the national, regional, and international levels, involving governments, civil society organisations, academia, and the private sector.
- Strengthen participation in activities of the GP Signature Initiative to Mitigate Biological threats in Africa.
- Emergency preparedness should involve and be coordinated with a wide range of expertise such as animal health, public health, military, logistics, environment, etc.

SURVEILLANCE AND LABORATORY CAPACITY

- Strengthen surveillance systems to detect and respond to outbreaks quickly, develop effective vaccines and therapeutics, and promote responsible biosecurity practices to prevent the accidental or deliberate release of pathogens.

CAPACITY BUILDING AND SUSTAINABILITY

- To ensure sustainability beyond the program cycle, it is important that the project aims to build ownership of activities within country and resourcing of other biothreat interventions.
- There should be control measures in place for laboratories working with pathogens to facilitate the detection of novel pathogens, including biosecurity measures, biosafety measures, accreditation procedures and auditing procedures.

EMERGENCY PREPAREDNESS

- Effective management of emergencies requires various preparedness tools such as contingency plans and should take an all-hazard approach and consider the biological threat spectrum.

LEGISLATION

- A legal framework should exist to allow Veterinary Services and Law Enforcement to better coordinate and collaborate during situations where both have a stake (e.g. suspicious biological event)
- Need for legal provisions for laboratories to test samples in suspicious deliberate biological incidents and agreement or legal provision for storage and exploitation of contaminated evidence in veterinary labs.

Next Steps

WOAH will review the workplans drafted by countries and work collaboratively with them to identify achievable activities within the given budget and timeline. WOAHA will maintain communication with country focal points to ensure there are regular updates on the project from the national and regional levels. To increase visibility of the project, WOAHA will publish the report online and summarise on the Regional website.

This workshop was a success and concluded with excellent participation from participants. Concrete actions and opportunities were identified to fill the challenges and gaps in the four pillars. Strong partnerships between WOAHA, the countries, and stakeholders will help ensure the success of this project.

Participants' Comments

Below are a few of the comments from participants from the final day = when asked to reflect on the three days of the workshop:

" For me, the workshop has taught me a lot. This is a wealth of information in a short time; we needed more time to handle it as we have many subjects."

"Thank you. I have to say that I was satisfied the process was good; you have touched on all the issues related to biothreat, and with limited time not easy to deal with the number of data and information we were able to document, but for other items, we will wish to go about it, you were there for us, a method to respect time, WOAH, CANADA, INTERPOL thanks to all you let's meet in the future."

" We hope the program will kick off and be of benefit to people at the country level."

" Thank you very much; it was a packed agenda focused on handling the project, making the meeting very engaged."

" Thanks to the organisers for inviting me and facilitating the legislation session; a great pleasure to meet everyone. I remain available to work with you on the legal process".

"Thanks to all the organisers of the first workshop. I have learned a lot. We see a number of similarities between the countries. I like the round table dialogue to reflect together to find a solution, and we didn't get annoyed."

Annexes

The external documents listed below can be found on the WOAHAfrica website and on Flickr:

[Presentations](#)

The programme - [English](#) and [French](#)

[Photos from the workshop \(Flickr\)](#)